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13. Combinatorics

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The Minimal Group with Graph and Its Permutation Elements

To make an approach to a problem, i. e., what is the conditions with which the permutation group can be equivalent to the automorphism group of some graph, offered by R. Frucht, we set up the conception of minimal group with graph and a method constructing the minimal group with graph of a given group. Concerned elements are added one by one, according to some rules, until a minimal group with graph is found. We have obtained some properties of permutation element that relate to the minimal group with graph and some results. Reference: N. Biggs, Algebraic Graph Theory, Cambridge University Press, (1974).